Cryſtallum iſtam in complura fruſta confregi, & fruſta microſcopiis applicavi; diſquirere volens num & illa ex ſuperſtratis ſibi lamellis compoſita eſſent: quâ ratione Adamantes magnitudinem ſuam adeptos eſſe dixi. Sed, tametſi perquiſitionem iſtam ſæpius iteraverim, ne tantillam quidem lamellam in iis deprehendi. Iſtud autem in Cryſtallis, quas quidem præ manibus habebam, plerumque animadverti, in omnibus earum lateribus, quæ numero ſena erant, tranſverſas protendi lineolas, alias aliis ſitu aliquantulum ſuperiores; tamquam ſi illic, increſcentibus Cryſtallis, ortæ productæque fuiſſent: quâ ſuper re, quantumcumque Cryſtallorum numerum ante conſideraverim, atque confregerim, numquam ipſe mihi ſatisfacere potui.

Delphis in Hollandiâ,
Nov. 20. 1722.

IV. *An Account of an Optical Experiment made before the* Royal Society, *on* Thurſday, Dec. 6th, *and repeated on the* 13th, 1722. *By the Reverend* J. T. Deſaguliers, *L. L. D. F. R. S.*

SIR *Iſaac Newton*, in his Optics, (*B.* 1. *Prop.* 1. *Exp.* 2.) relates an Experiment made with a Card, or Paper, painted red on one half and blue on the other, which being enlighten'd by a Candle, the Image, by the Interpoſition of a *Lens*, is ſo projected on a white Paper, held on the other ſide of the *Lens*, that the Place where the blue half appears diſtinct, (or as the Opticians term it, the diſtinct Baſe of the Image of the blue half) is much nearer to the *Lens* than the Place of the Image of the red half. And this is made apparent

apparent, by ſeeing on one of theſe Images the Repreſentation of the black Threads, that are wrapp'd round the Card, whilſt they are not viſible on the other. This is fully deſcribed in the Place abovemention'd; but yet a * Gentleman abroad has call'd the Experiment in queſtion, and denied the matter of Fact, ſaying, that he could not make it ſucceed, but propoſes an Experiment ofhis own to diſprove the different Refrangibility of the Rays.

Upon this I was deſir'd to make the Experiment over again, before the Royal Society, which ſucceeded well. But becauſe there muſt be care taken in the making it, I ſhall mention all the Particulars obſerved in the Performance; which, if duly put in practice, will make the Experiment always ſucceed.

I painted one half of the Card R B, (*Fig.* X.) as B, with *Ultramarine*, made deeper with a ſmall Mixture of *Indigo*, and the other half R, I painted over with *Cinnabar* heighten'd with a little *Carmine*, ſo that the Line, that ſeparated the red from the blue, was perpendicular to the long ſides of the Cord.

Then I wrapp'd a black Silk four times together, over the middle of each painted part of the Card, as in *Fig.* XI.

Upon a ſquare Trencher, *Fig.* XII. painted black, and ſuſpended vertically againſt a Wall, I fix'd my colour'd Card with a Pin, and the Room being made very dark, I enlighten'd the Card with a ſtrong Light thrown upon it from a dark Lanthorn, that had two Convex Glaſſes in it; then ſetting up the *Lens* L L, (repreſented by *Fig.* XIII.) in ſuch manner, that its Axis paſs'd perpendicularly thro' the Image of the Card, at

* Act. Erudit. Lipſ. Supplem. tom. 8. §. 3. p. 130. 131.

the diſtance of nine Feet from the Card, the Image of the Card being receiv'd upon a white Paper, at the diſtance of nine Feet on the other ſide of the *Lens*, at B, the blue half appear'd diſtinct, with the Image of the black Silk going vertically along its Plain, whilſt no Appearance of the black Silk was perceivable on the red half. Then removing the Paper about two Inches, to R, the red half of the Image had a black Line very plain upon it, whilſt it was inviſible on the blue half. This was more evident, when a ſtrong Image of the Candle was ſucceſſively thrown on that half of the Card, whoſe Image was under Examination. When the Paper was held in the middle between R and B, the black Line upon each Colour was viſible, but indiſtinct.

N. B. Care muſt be taken that the Colours be deep, becauſe having accidentally rubb'd off ſome of the blue, the Whiteneſs of the Card under it, made its Image fly out farther, almoſt as far as that of the red.

FIG. I

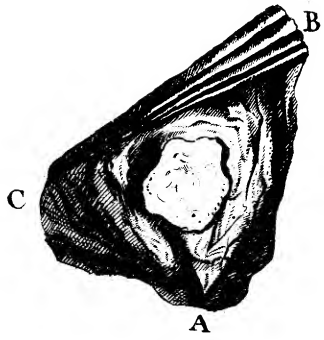


FIG. II.

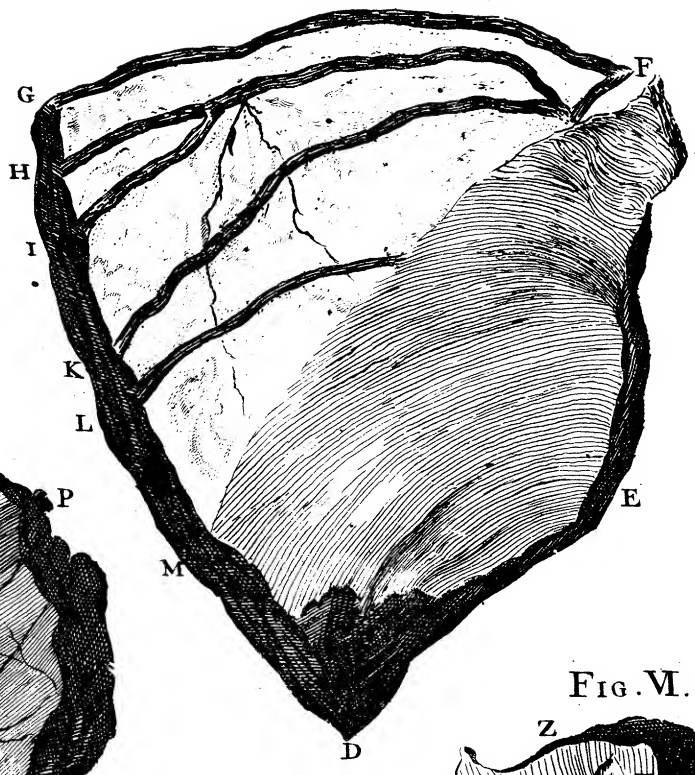


FIG. III.

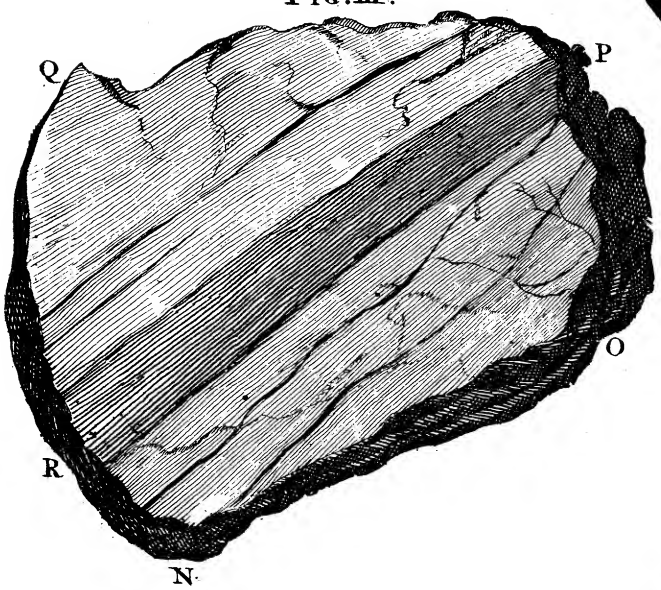


FIG. IV.

FIG. V.

FIG. VI.

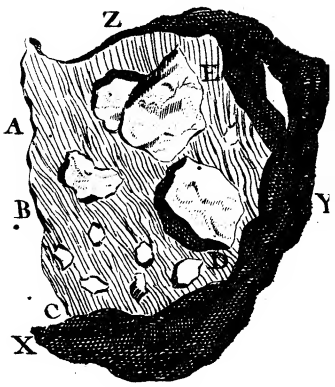
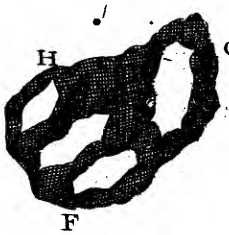


FIG. VII.



Philos. Trans. N° 374.

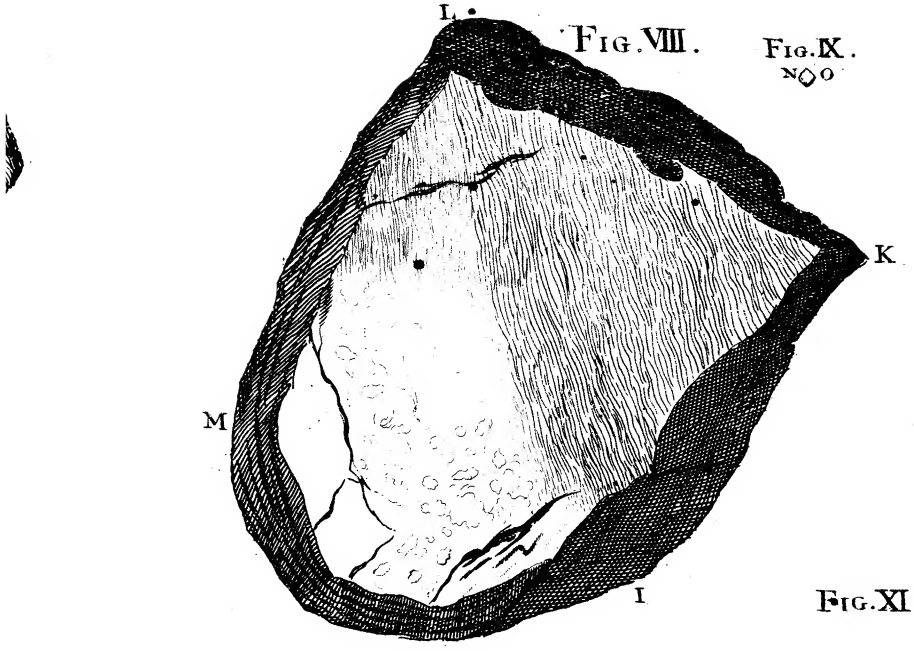


FIG. VIII.

FIG. IX.

FIG. X.
R B

FIG. XI.
R B

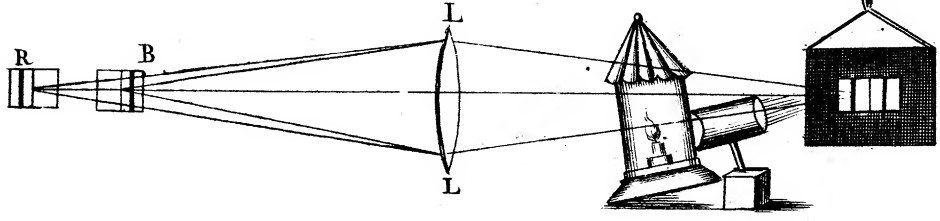


FIG. XII.

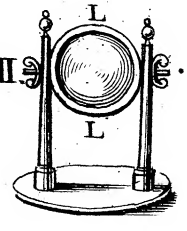


FIG. XIII.

J Sturt sculp.

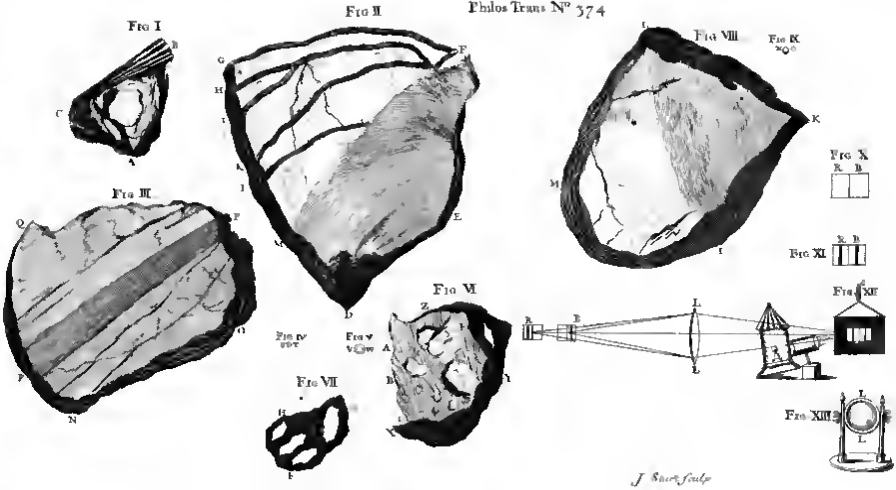


Fig I
Fig II
Fig III
Fig IV
Fig V
Fig VI
Fig VII
Fig VIII
Fig IX
Fig X
Fig XI
Fig XII
Fig XIII
J Sturt sculp